

CLAIMS

1. A positioning system for use during surgical procedures, said positioning system comprising a belt assembly adapted to be positioned about a bodily surface of a patient, said belt assembly having a first module adapted to be attached to a second module, wherein at least one of said modules is adapted to permit attachment of a surgical instrument thereto.
2. The positioning system claimed in claim 1, wherein said first module has a major axis extending across the bodily surface in a first direction and said second module has a major axis extending along said bodily surface in a second direction.
3. The positioning system claimed in claim 2, wherein said first direction is perpendicular to said second direction.
4. The positioning system claimed in claim 1, wherein said first module and said second module each include fingered portions extending therefrom, said fingered portions including apertures therethrough, wherein said fingered portions of said first module are interdigitalized with said fingered portions of said second module so as to form a hinge with said apertures in alignment, said hinge being secured by a pin extending through said apertures.
5. The positioning system claimed in claim 4, wherein said pin comprises an elongate shaft having a diameter smaller than the diameter of said apertures and a head having a surface larger than the diameter of said apertures such that said head will not fit within said apertures.
6. The positioning system claimed in claim 1, further comprising securement straps for securing said positioning system to an operating table during the surgical procedure, said securement straps having first ends

attached to said positioning system and second ends attached to said operating table.

7. The positioning system claimed in claim 6, wherein said securement straps further comprise buckles to permit said securement straps to be tightened such that said positioning system may be held closely against the patient.

8. The positioning system claimed in claim 6, wherein each of said first module and said second module includes one securement strap attached thereto.

9. The positioning system claimed in claim 1, further comprising a surgical instrument having a distal end insertable into an opening in the patient to engage an internal vessel and an attachment mechanism for attachment of said surgical instrument to said belt assembly to allow said distal end of said instrument to be maintained in a desired position engaging the internal vessel during the surgical procedure.

10. The positioning system claimed in claim 1, wherein a surgical instrument is attached to the positioning system by a surgical instrument retention system, said surgical instrument retention system comprising a saddle positioned on the surgical instrument, straps securing said saddle to said surgical instrument, and a pulley cord in communication with said saddle so as to selectively position the surgical instrument upon movement of said pulley cord.

11. The positioning system claimed in claim 10, wherein said belt assembly further comprises an element for securing said pulley cords in a desired position, each of said elements including a V-shaped notch wherein said pulley cord may be frictionally retained.

12. The positioning system claimed in claim 10, wherein said saddle includes a first portion, a second portion, and a walled portion therebetween, said pulley cord being secured within with said walled portion.

13. The positioning system claimed in claim 10, wherein said belt assembly further comprises a height adjustment module for adjusting the height of the surgical instrument above the level of said belt assembly, said height adjustment module including at least one groove for insertion of the surgical instrument therein.

14. The positioning system claimed in claim 13, wherein said height adjustment module includes a plurality of U-shaped grooves, at least two of said U-shaped grooves being formed to different heights.

15. The positioning system claimed in claim 13, wherein said height adjustment module is slideably engaged upon said belt assembly so as to be moveable to a plurality of positions.

16. The positioning system claimed in claim 1, wherein the surgical instrument is attached to one of said modules by a wrap adapted to be engaged about said surgical instrument, wherein said wrap comprises a first side and a second side, said first side having a portion covered with hook and loop type fasteners and a remaining portion, said second side having a portion covered with corresponding hook and loop type fasteners such that when said wrap is placed around said surgical instrument, said hook and loop type fasteners will engage with said corresponding hook and loop type fasteners to secure said surgical instrument within said wrap.

17. The positioning system claimed in claim 16, wherein said remaining portion of said first side of said wrap is covered with a rubberized material such that said rubberized material engages with said surgical instrument when said wrap is fastened to prevent rotation of the surgical instrument relative to said wrap.

18. The positioning system of claim 1, wherein said first module includes a cushioned underbelly in contact with the patient.

19. A positioning system for use during surgical procedures comprising a belt assembly positionable about a bodily surface of a patient, said belt assembly comprising a platform and a surgical instrument retention system, said surgical instrument retention system comprising a saddle adapted to be positioned on a surgical instrument, straps adapted to secure said saddle to the surgical instrument, and a pulley cord coupled to said saddle so as to selectively position the surgical instrument upon movement of said pulley cord, said surgical instrument retention system adapted to restrain movement of the surgical instrument.

20. The positioning system of claim 19, further comprising securement straps for securing said belt assembly to an operating table during the surgical procedure, said securement straps having a first end attached to said belt assembly and a second end attached to said operating table.

21. The positioning system of claim 19, wherein said platform further comprises elements for securing said pulley cords in a desired position, each of said elements including a V-shaped notch wherein said pulley cord may be frictionally retained.

22. The positioning system of claim 19, wherein said platform further comprises a height adjustment module for adjusting the height of the surgical instrument above the level of said platform.

23. The positioning system of claim 22, wherein said height adjustment module includes a plurality of grooves, at least two of said grooves formed to different heights above said platform.

24. The positioning system of claim 19, further comprising a second platform adapted to be rotatably engaged with said platform.

25. The positioning system of claim 19, wherein said platform includes a perimeter edge, said perimeter edge including a skirt extending beyond the platform.

26. The positioning system of claim 25, wherein said first module includes a cushioned underbelly in contact with the patient, said cushioned underbelly partially extending beyond the limits of said skirt.

27. A retention system for retaining a surgical instrument, said retention system comprising a saddle adapted to be positioned on a surgical instrument, straps adapted to secure said saddle to the surgical instrument, and a pulley cord coupled to said saddle so as to selectively position the surgical instrument upon movement of said pulley cord.

28. The retention system of claim 27, wherein said saddle includes a first portion, a second portion, and a walled portion therebetween, said pulley cord being secured within said walled portion.

29. The retention system of claim 28, wherein said walled portion of said saddle comprises two spaced-apart walls connected to each other by a support portion, said pulley cord being retained between the two spaced-apart walls.

30. The retention system of claim 27, further comprising a platform adapted to be positioned about a bodily surface of a patient, wherein said retention system may be connected to said platform via said pulley cord.

31. The retention system of claim 30, wherein said platform includes a pair of elements having V-shaped notches capable of securing said pulley cords therein by friction.

32. The retention system of claim 30, further comprising a height adjustment module engaged with said platform, said height adjustment module adapted to support the surgical instrument above the level of said platform.

33. A method of securing a surgical instrument for use during surgical procedures in which an opening is formed in a patient, said method comprising:

inserting a distal portion of the surgical instrument into the opening formed in the patient;

strapping a saddle to a proximal portion of the surgical instrument so rotation of the surgical instrument relative to the saddle is inhibited;

securing the saddle to a belt assembly positioned on a bodily surface of the patient by attaching a pulley cord secured to the saddle to the belt assembly.

34. The method of securing a surgical instrument claimed in claim 33, wherein said method further comprises positioning a medial portion of the surgical instrument upon a height adjustment module in communication with the belt assembly to further stabilize the surgical instrument and elevate the proximal portion of the surgical instrument above the belt assembly.

35. The method of securing the surgical instrument claimed in claim 34, wherein said method further comprises strapping the belt assembly to a surgical table upon which the patient lies.

36. An instrument positioning system for use during surgical procedures comprising:

a belt assembly adapted to be positioned about a bodily surface of a patient, said belt assembly comprising a platform having a shaped opening for receiving an accessory;

an accessory adapted to fit securely within said shaped opening, said accessory comprising a base having a locking apparatus for locking a medical device to said base.

37. The instrument positioning system of claim 36, wherein said locking apparatus comprises a fixed block fixedly engaged to said base, a rotatable block rotatably

engaged to said base, and a locking mechanism for selectively rotating and locking said rotatable block.

38. The instrument positioning system of claim 37, wherein said rotatable block is rotated such that a portion of a device may be secured between said rotatable block and said fixed block.

39. The instrument positioning system of claim 37, wherein said locking mechanism comprises an element adapted to bear against said rotatable block to rotate said rotatable block in a progressive manner as said element is rotated.

40. The instrument positioning system of claim 37, wherein a medical device support having a spherical base is fixedly engaged by its spherical base between said rotatable block and said fixed block.

41. The instrument positioning system of claim 40, wherein said medical device may rotate through the full 360 degrees.

42. The instrument positioning system of claim 40, wherein said medical device may be deflected through approximately 180°.

43. The instrument positioning system of claim 37 further comprising a medical device support, said medical device support comprising a spherical base and an elongate stem extending therefrom, said spherical base adapted to be secured between said fixed block and said rotatable block.

44. The instrument positioning system of claim 43, wherein said medical device support further comprises a pair of opposed sides connected by a hinge, said opposed sides being biased toward each other by said hinge.

45. The instrument positioning system of claim 44, wherein said hinge is spring-loaded.

46. The instrument positioning system of claim 44, wherein said opposed sides included padded interior portions adapted to secure a medical instrument without damaging the instrument.

47. A positioning system for use during surgical procedures comprising a belt assembly positionable about a bodily surface of a patient, said belt assembly comprising a platform having a first side and a second side, said first side adapted to permit attachment of a surgical instrument thereto, said second side having a cushion coupled thereto.